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FEDERAL - STATE COOPERATIVE
SNOW SURVEYS AND IRRIGATION WATER FORECASTS
for
Colorado River Drainage Basin
By

Division of Irrigation, Soil Conservation Service
United States Department of Agriculture
and
Colorado Agricultural Experiment Station

Data included in this report were obtained by the agencies named above in cooperation with the U. S. Forest Service, National Park Service, State Engineers of Colorado, Wyoming and New Mexico and other Federal, State and local organizations.

As of
MAY 1, 1952

FEDERAL-STATE COOPERATIVE
SNOW SURVEYS AND IRRIGATION
WATER SUPPLY FORECASTS

FOR
COLORADO RIVER BASIN
MAY 1, 1952

Report Prepared
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Soil Conservation Service
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WATER SUPPLY OUTLOOK
COLORADO RIVER DRAINAGE
May 1, 1952

The snow-melt season discharge of the Colorado River into Lake Mead will probably be the largest for any year since Hoover Dam was completed. Snow water contents measured on practically all high elevation courses in Colorado are at a record high. Somewhat less snow has occurred on the Green River watershed in Wyoming and at lower elevations in New Mexico. Soil moisture conditions throughough the Upper Basin are described as very good. Current stream flow is above normal for this date.

From Arizona after a series of dry years it is reported that with the exception of the Gila River drainage there is more water stored on this date than at any times since June 1943. Stream flow as of May 1 was measured as 4675 second-feet for the Salt River, 952 for the Tonto and 1445 for the Verde.

COLORADO RIVER AND
TRIBUTARIES IN COLORADO

Colorado River (above Grand Junction): Snow water content measured on the Upper Colorado River on May 1 was about 145 percent of normal. Snow melt was above average during April. Low elevation snow is gone and there has been substantial depletion of the snow water contents at high elevations. However, the snow cover is generally at a record high for this date and the snow melt season discharge of the Upper Colorado River will probably exceed any year since snow surveys were started in 1936. Stream flow is well above normal. Soil moisture, range and crop conditions are described as good.

Gunnison River: On the Gunnison River the snow water content as of May 1 was 168 percent of normal. The remaining snow is very heavy, particularly at medium mountain elevations from 9500 to 10,000 feet. The discharge of the Gunnison River was 150 percent of normal during April and has increased rapidly since May 1. The snow melt season discharge of this stream including all of its tributaries will be very high. Reports of flooding in low areas have been noted at this early date. Soil moisture, range and crop conditions are reported as excellent over the entire drainage.

San Juan and Animas Rivers: In contrast with the past two years, the snow melt season discharge of the San Juan and its tributaries in Colorado will be near record high. There was a substantial melting of snow at medium exposed elevations during April. At high elevations snow cover decreased slightly. Stream flow is well above normal. Soil moisture, range and crop conditions are reported as very good. Precipitation during April was about two times normal. Vallecito reservoir is down to about 22,000 acre feet.

Yampa and White Rivers: The snow melt season runoff of these streams will be slightly less in respect to normal than for streams in southwestern Colorado. However the seasonal runoff will be much above normal. Soil moisture, range and crop conditions are described as excellent. April stream flow has been above average, especially on the Yampa where there is a considerable area of heavy snow melt at relatively low elevations in valley areas.

Dolores River: Snow melt season runoff of this stream will be the highest in many years. Local flooding has already been reported. Precipitation in the Cortez area is reported as over twice normal for April. The soil in irrigated areas is very wet.

GREEN RIVER IN WYOMING

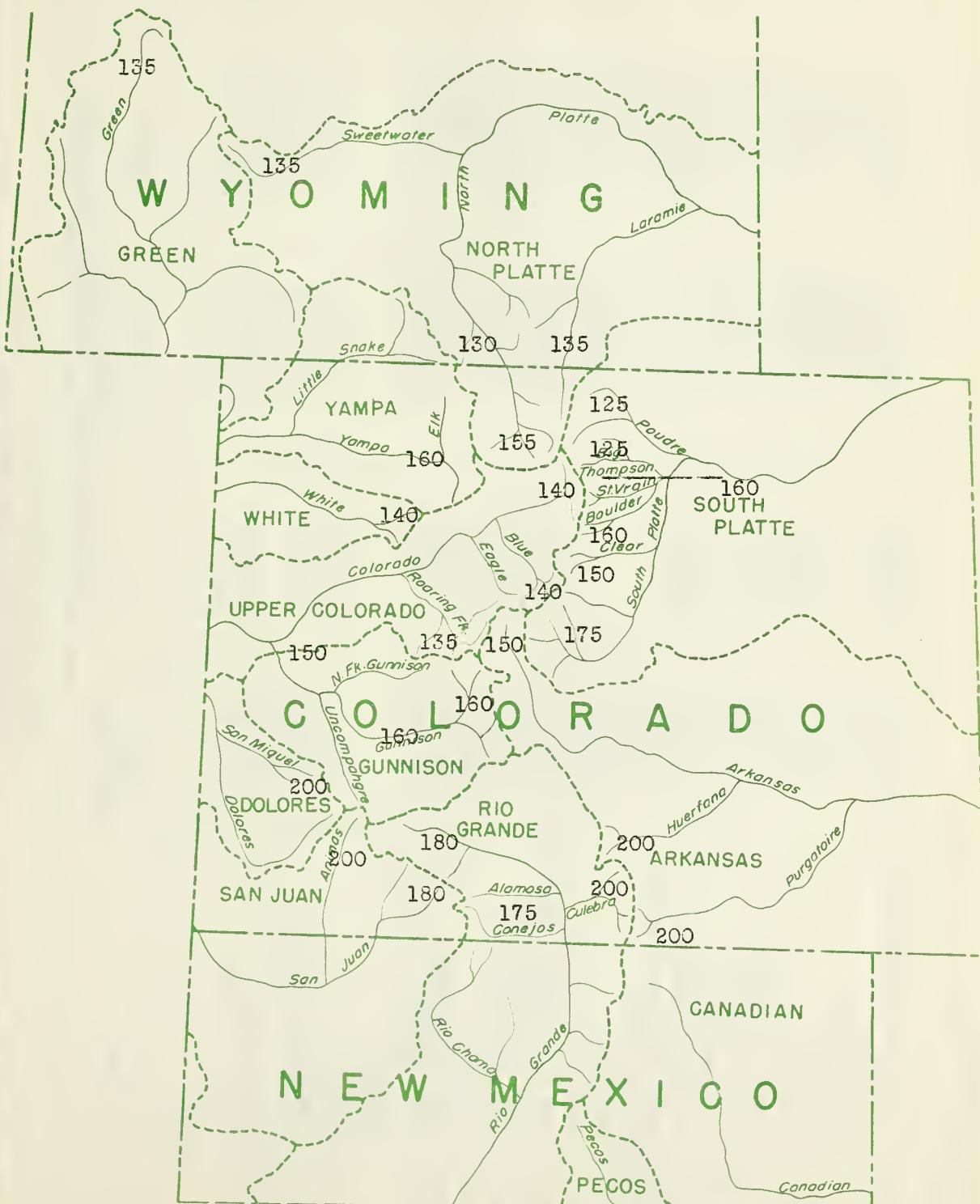
Snow cover on the Green River drainage is above normal but less than for other Colorado River tributaries and much less than for this date in 1951. There was substantial snow melt during April. Practically no snow remains at valley and foothill elevations. Stream flow is about normal.

COLORADO RIVER TRIBUTARIES IN ARIZONA

The water supply outlook for Arizona is the best for many years. On the Salt, Verde and Tonto Rivers the winter snow cover ranged from 200 to 500 percent of normal and the runoff to date has been very high. Current storage in Salt River Valley reservoirs is the highest since June 1943. An estimated 20 percent of the snow remains on the watershed. Soil moisture conditions are reported as excellent at high elevations and about average in irrigated areas.

The winter snow accumulation on the Gila River watershed was much less than for other Arizona streams. There is no snow remaining on this watershed. The flow into San Carlos now ranges from 300 to 600 second feet. Soil moisture conditions are reported as fair.

WATER CONTENT OF SNOW ON THE WATERSHEDS OF
PLATTE, ARKANSAS, UPPER COLORADO AND RIO GRANDE BASINS
BASED ON SNOW SURVEYS MADE APPROXIMATELY FIRST DAY OF MONTH
In Percent of Normal
May 1, 1952



NOTE: The above figures represent approximate snow water content remaining on snow courses as of May 1 in percent of normal and does not necessarily indicate expected summer runoff of the streams.

COLORADO RIVER DRAINAGE BASIN
STREAM FLOW FORECASTS, May 1, 1952

BASIN AND STREAM	May 1-Sept., Incl., Streamflow, Acre Feet				10-year Avg. 1941-1950
	Forecast 1952	1951	Measured Runoff 1950	1949	
GREEN					
Green at Linwood, Utah	1,600,000	1,679,000	2,118,000	1,145,000	1,351,000
Little Snake at Lily	525,000	254,000	320,000	493,000	358,000
Elk at Clark	325,000	400,000	224,000	207,000	213,000
Yampa at Steamboat Springs	400,000	450,000	245,000	340,000	271,000
White at Meeker	450,000	324,000	303,000	404,000	330,000
COLORADO					
Colorado near Branby	300,000*	15,000**	144,000	137,000	---
Willow Creek near Granby	70,000	50,000	56,000	56,000	36,000
Frazer at Granby	165,000*	121,000	73,000	122,000	99,000
Blue Above Green Mt. Res.	425,000	367,000	254,000	318,000	287,000
Colorado at Glenwood Springs	2,100,000*	1,515,000**	1,112,000	1,581,000	1,443,000
Roaring Fork at Glenwood Springs	1,200,000	719,000	633,000	799,000	777,000
Plateau Creek at Collbran	110,000	52,000	52,000	58,000	61,000
Gunnison at Iola	1,100,000	472,000	472,000	672,000	575,000
Uncompahgre at Colona	275,000	92,000	92,000	195,000	175,000
Surface Creek near Cedaredge	35,000	15,000	15,000	15,000	18,000
Gunnison at Grand Junction	2,750,000	590,000	1,018,000	1,751,000	1,611,000
San Juan at Rosa, N.M.	1,200,000	270,000	379,000	973,000	743,000
Piedra Creek at Piedra	450,000	121,000	121,000	307,000	226,000
Los Pinos near Bayfield	435,000	126,000	168,000	314,000	240,000
Florida near Durango	130,000	27,000	37,000	99,000	73,000
Animas at Durango	900,000	262,000	323,000	694,000	551,000
La Plata at Hesperus	55,000	17,000	17,000	45,000	31,000
Dolores at Dolores	500,000	121,000	207,000	352,000	335,000
Colorado near Grand Canyon-Ariz.	16,000,000	7,565,000	8,271,000	11,645,000	10,315,000

*Including diversions and storage
**Actual flow only



SNOW SURVEYS AND IRRIGATION WATER SUPPLY FORECASTS
COLORADO RIVER BASIN
STATUS OF RESERVOIR STORAGE, MAY 1, 1952

BASIN AND STREAM	RESERVOIR	USABLE CAPACITY (Thous.A. Ft.)	THOUSANDS ACRES FEET IN STORAGE, About May 1, 1952				
			1952	1951	1950	1949	10-year Avg.* 1942-1951
COLORADO DRAINAGE							
Taylor River	Taylor Park	106.2	59.1	50.3	75.3	62.2	77.1
Los Pinos River	Vallecito	126.3	21.6	33.3	77.9	32.3	45.1
Groundhog Creek	Groundhog	21.7	4.5	4.3	11.0	8.5	11.8
Blue River	Green Mountain	146.9	54.8	45.7	48.0	42.7	54.0
Colorado River	Lake Mead	27935.0	16500.0	17730.0	17869.0	18659.0	18659.0
Colorado River	Lake Havasu	688.0	664.5	661.0	659.9	635.5	635.5
SALT AND GILA DRAINAGE							
Salt River	Roosevelt	1382.0	998.3	7.2	225.0	428.6	540.9
"	Horse Mesa	245.0	239.9	121.3	241.2	192.8	211.0
"	Mormon Flat	58.0	50.2	51.0	54.1	42.6	47.9
"	Stewart Mt.	70.0	51.7	44.5	47.4	38.0	51.4
Verde River	Bartlett	180.0	165.7	8.7	43.0	131.9	75.7
Aqua Fria River	Horseshoe	143.0	102.6	0.4	1.0	51.0	12.4
Gila River	Carl Pleasant	178.0	---	---	6.6	30.6	17.9
	San Carlos	1285.0	159.8	0.0	47.1	252.7	200.4

* Some for shorter periods



SNOW SURVEYS AND IRRIGATION WATER FORECASTS
for
COLORADO RIVER BASIN

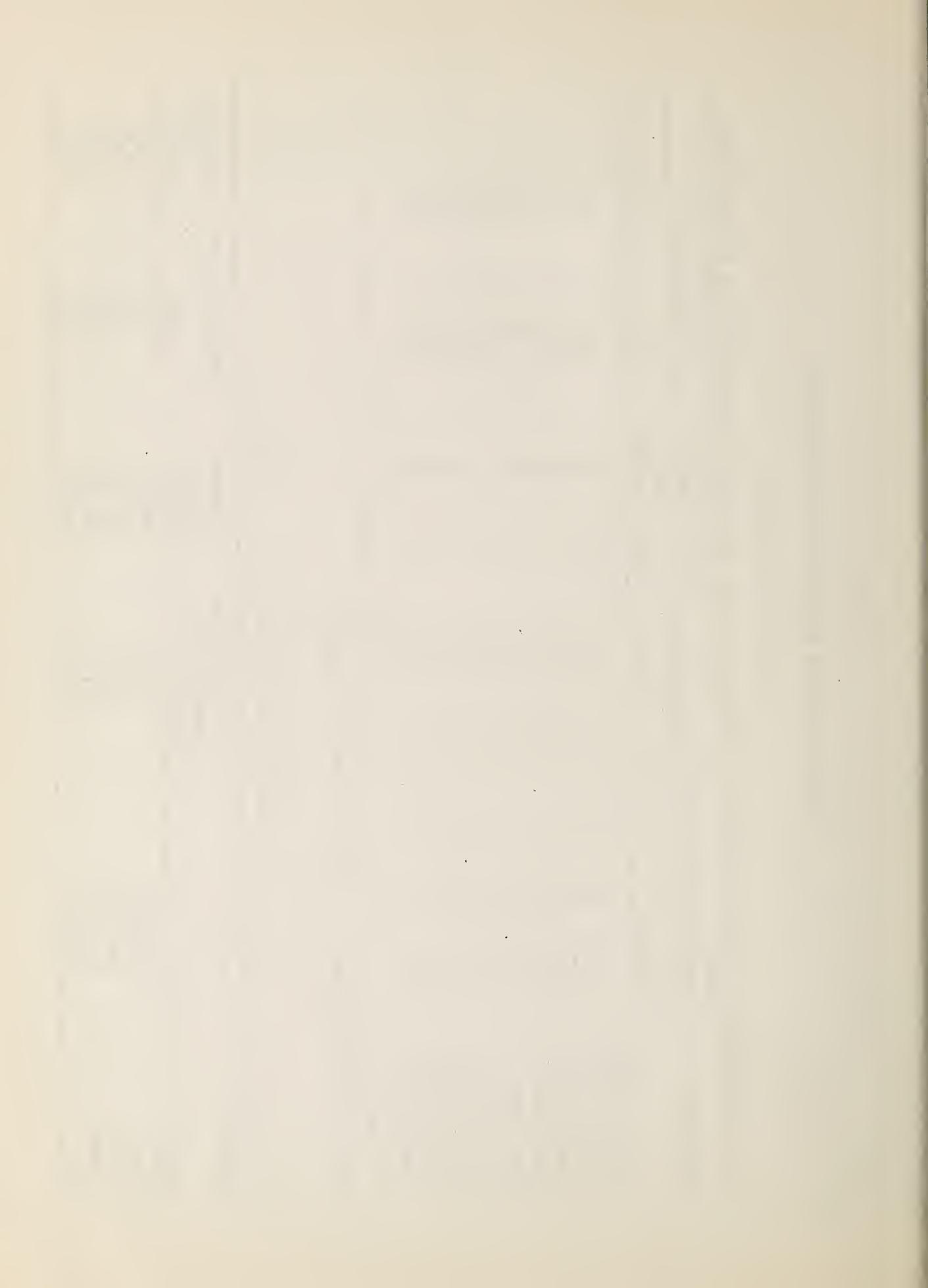
SUMMARY OF MAY 1 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

WATERSHEDS	Snow Depth 1952 Inches	Snow Water Content in Inches 1951	1950 Average	15 yr.* Average	No. of Courses in 1952 Average	Snow Density Percent in 1952	1952 Water Content in Percent of 15 yr. Avg.*	
							1951	1951
COLORADO RIVER								
Colorado River**	40.0	16.0	15.3	10.9	10.7	21	40	105
Roaring Fork	37.5	15.3	13.9	10.3	11.5	4	41	111
Plateau Creek	73.4	33.9	17.0	21.1	23.2	2	46	200
Green River	27.3	11.2	17.5	15.9	8.3	6	41	64
Yampa River	55.4	28.3	20.2	20.0	17.9	5	48	135
White River	37.9	17.6	13.2	10.8	12.2	2	47	135
Gunnison River	54.5	25.1	13.7	14.0	15.0	9	46	134
Dolores River	21.2	9.7	4.7	0.0	5.7	3	46	184
San Juan River	60.4	30.9	12.0	10.0	15.0	4	51	204
Animas River	11.5	5.6	0.0	0.0	1.8	2	49	258
							---	206

**Above Glenwood Springs *Some for shorter periods.

P R E C I P I T A T I O N D A T A

WATERSHED	STATE	Precipitation* October 1 to April 30	Departure from Normal	Precipitation* April	Departure from Normal
Colorado	Colorado	14.57	43.58	1.54	-0.07
Green	Wyoming	6.50	40.79	0.91	-0.14
San Juan	New Mexico	10.95	41.25	1.68	-0.75
Colorado	Arizona	14.15	45.31	1.74	-0.84
Gila	Arizona	11.76	43.97	1.44	-0.97

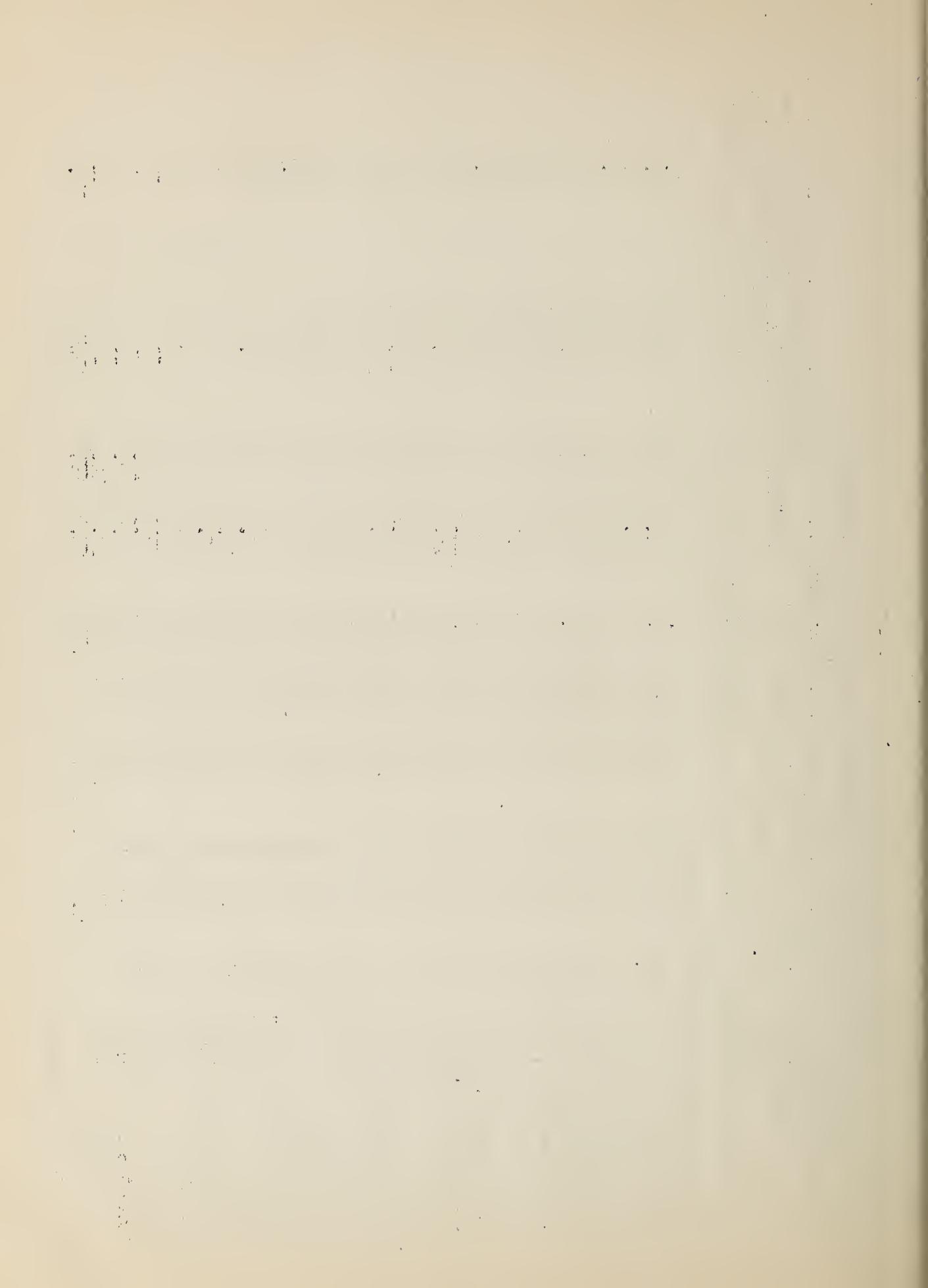


COLORADO RIVER DRAINAGE SNOW SURVEYS

May 1, 1952

Drainage Basin and Snow Course	No. and State	Sec.	Twp.	Range	Elev.	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Snow Cover Measurements		
									1950	1951	1952
COLORADO RIVER											
Cameron Pass*	Colo. 2	24	5N	75W	10300	5/6	60.9	29.2	26.5	24.2	16
Park View*	"	7	5N	76W	9200	4/28	31.6	11.4	8.9	9.1	16
Phantom Valley	12 "	7	5N	75W	9300	4/30	27.7	11.6	6.5	6.5	16
Hoosier Pass	14 "	13	8S	78W	11400	4/30	57.7	17.7	10.4	10.4	16
Berthoud Pass	16 "	35	2S	75W	9700	4/29	54.3	21.9	20.8	12.6	16
Tennessee Pass	19 "	21	8S	80W	10200	4/29	36.7	13.7	11.8	8.0	16
M. Fork Camp Gr.	37 "	16	3S	77W	9000	4/30	22.2	9.6	11.2	6.9	16
Fidcler Gulch	44 "	1	8S	80W	11000	4/30	57.2	21.7	20.9	16.0	15
Lulu	59 "	25	6N	76W	10200	5/1	58.6	22.4	25.1	20.3	12
Willow Creek P.	62 "	1	4N	78W	9500	4/28	45.5	20.6	14.8	15.8	14
N. Inlet Grand L.	64 "	26	5N	75W	9000	4/28	35.2	14.2	7.8	5.8	14
Lake Irene	65 "	8	5N	75W	10600	4/29	62.0	26.2	34.5	21.0	14
Arrow	69 "	34	7S	75W	9900	4/29	34.2	13.0	11.5	7.1	14
Lapland	70 "	16	2S	76W	9500	5/1	28.0	12.8	12.8	11.7	14
Fremont Pass #2	79 "	2	8S	79W	11400	4/28	59.6	23.0	27.7	19.2	16
Lynx Pass	91 "	27	2N	88W	9100	4/27	28.4	10.0	6.4	7.2	16
Shrine Pass	96 "	15	6S	79W	10500	4/28	54.0	22.0	25.5	20.2	10
Grizzly Peak	97 "	2	5S	76W	11250	4/26	66.1	26.8	27.7	23.0	10
Glen-Mar Ranch	102 "	31	2S	77W	8850	4/30	20.5	8.8	8.9	3.8	5
Monarch Lake	106 "	30	2N	75W	8500	4/28	30.3	12.7	7.6	3.3	3
Granby	112 "	11	2N	77W	8700	4/27	19.6	5.2	3.0	1.3	3
Grand Lake	127 "	36	4N	75W	8600	4/27	21.4	10.0	5.8	0.0	3
Berthoud Summit	138 "	10	2S	75W	11300	4/27	72.5	27.3	19.7	--	1
Frazer View	139 "	34	2S	75W	10600	4/27	46.2	15.7	13.4	--	1
Gore Pass	143 "	2	1N	82W	8900	4/27	33.9	11.8	9.7	--	1
Frisco	146 "	18	6S	78W	9300	4/28	14.7	5.5	10.0	--	1
Snake River	147 "	9	5S	76W	9700	4/27	20.7	7.4	12.7	--	1
Summit Ranch	158 "	8	4S	78W	10000	4/27	30.2	12.0	10.5	10.5	1
Average for drainage											
											10.9

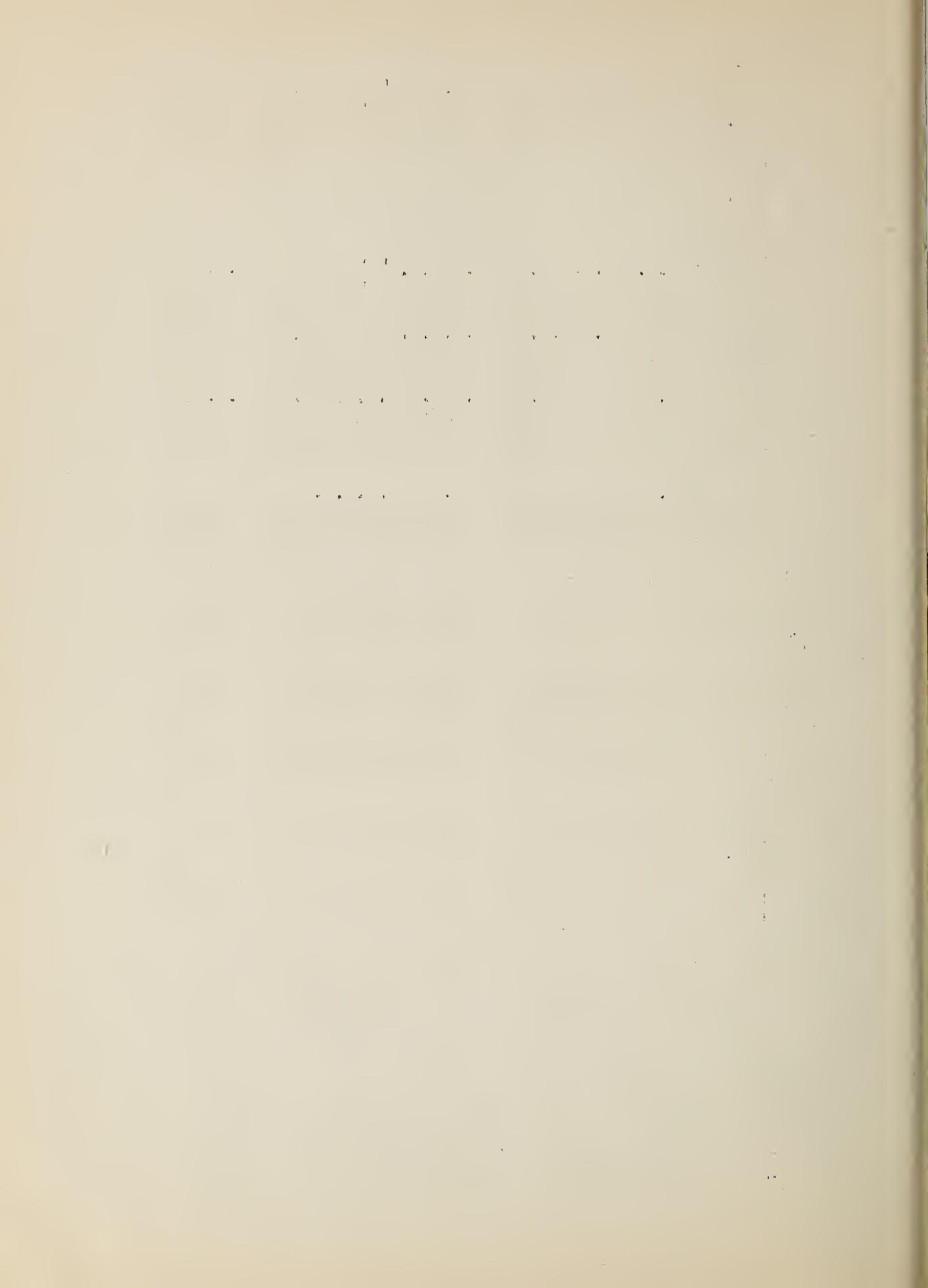
*On adjacent drainage



COLORADO RIVER SNOW SURVEYS
May 1, 1952

Drainage Basin and Snow Course	Location				Snow Course Measurements						
	No. and State	Sec.	Twp.	Range	Elev.	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Yrs. of Record	Avg. Water Content (In.)	Past Record
ROARING FORK											
Ind. Pass Tunnel	33 Colo.	30	11S	82W	10700	5/2	49.1	19.6	20.6	18.5	17.2
North Lost Trail	34 "	20	11S	87W	9200	5/3	29.0	10.5	10.2	7.6	9.8
Nast	45 "	1	9S	83W	8700	4/29	12.9	3.9	2.7	0.0	1.2
Ivanhoe	100 "	12	9S	82W	10400	4/29	59.1	27.4	22.1	15.1	17.8
Woods Lake	131 "	2	8S	83W	11000	4/30	49.4	19.3	14.0	17.3	2
Ruby	144 "	1	12S	83W	11500	5/2	55.0	19.6	18.5	--	--
							37.5	15.3	13.9	10.3	11.5
YAMPA RIVER											
Dry Lake	6 Colo.	26	7N	84W	8300	4/29	40.4	28.8	18.7	16.3	15.4
Columbine Lodge*	8 "	21	5N	82W	9300	4/28	58.9	30.5	28.8	20.8	19.9
Elk River	9 "	6	10N	85W	8700	5/1	43.9	22.0	12.3	17.9	12.4
Lynx Pass*	91 "	27	2N	83W	9100	4/27	28.4	10.0	6.4	7.2	8.3
Routt Line	140 "	13	5N	83W	9700	4/28	93.9	45.4	47.1	--	--
Rabbit Ears	141 "	30	5N	83W	9550	4/28	68.5	32.0	31.1	--	--
Yampa View	142 "	21	5N	84W	8500	4/28	26.7	12.5	12.3	--	--
Old Battle*	9 Wyo.	29	14N	85W	9800	4/24	105.6	50.0	34.9	37.7	16
							55.4	28.3	20.2	20.0	33.3
WHITE RIVER											17.9
Burro Mountain	35 Colo.	15	2S	91W	9000	5/2	43.6	19.8	11.1	15.0	11.7
Rio Blanco	36 "	28	1N	88W	8500	4/30	31.8	15.3	15.3	6.7	9.8
							37.9	17.6	13.2	10.8	12.2

*On adjacent drainage



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COLORADO RIVER SNOW SURVEYS
May 1, 1952

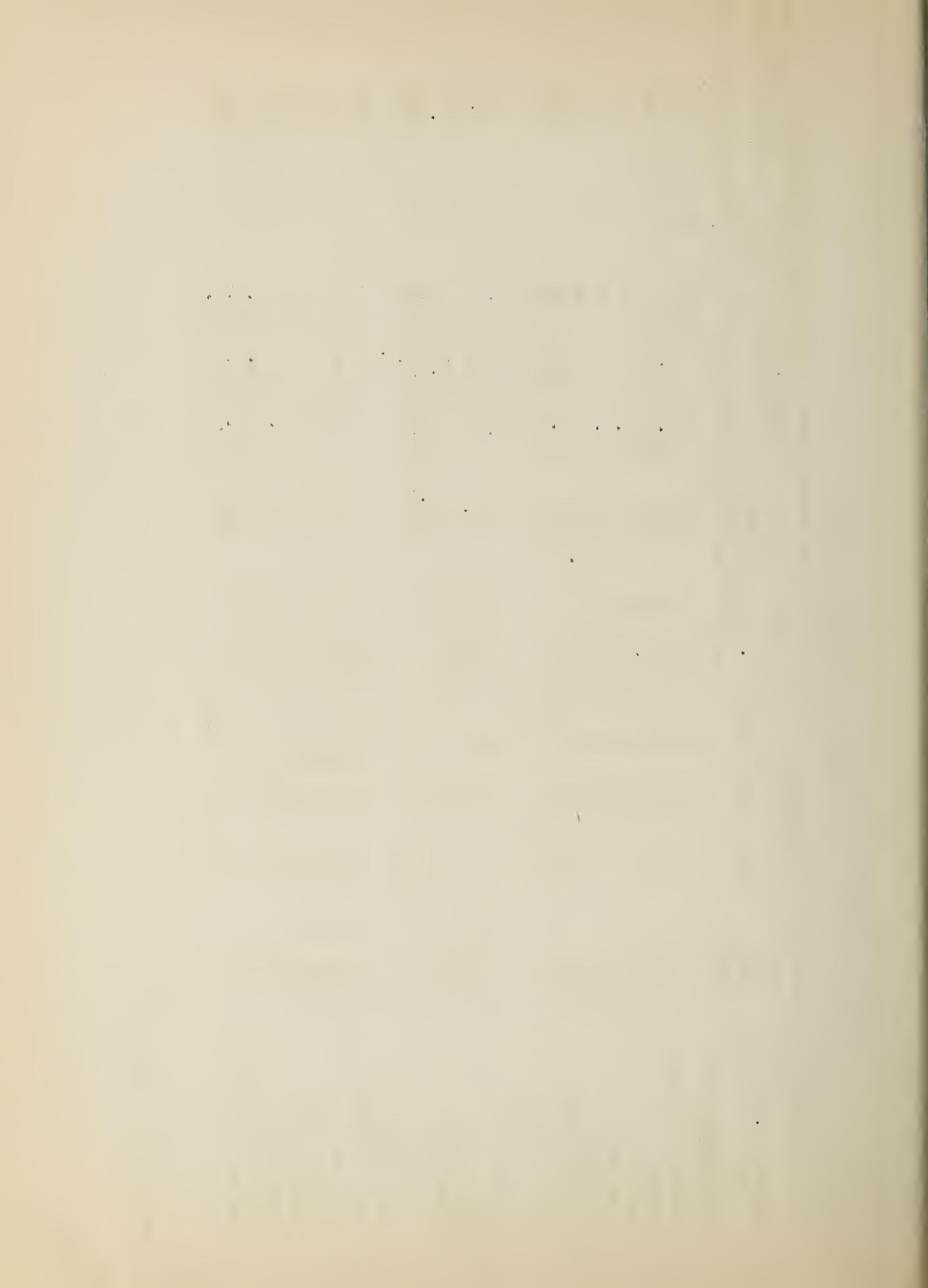
Drainage Basin and Snow Course	No. and State	Sec.	Twp.	Range	Elev.	Date of Survey	Snow Depth (Inches)	Snow Course Measurements			Past Record Av. Water Content (Inches)
								Water Content (Inches)	Yrs. of Rec.	Past Record	
PLATEAU CREEK	56 Colo.	35	11S	96W	10000	4/30	52.7	23.5	15	15.4	
Mesa Lakes	"	23	11S	94W	10000	4/29	91 ₄ .1	23.5	12	30.9	
Trickle Divide		Average for drainage					73.4	17.0		23.2	
GUNNISON RIVER	Crested Butte	18 Colo.	22	13S	86W	9000	5/1	29.2	18.3	4.2	6.5
	Marshall Pass	42 "	24	48N	6E	10800			13.5	4.6	10.4
	Poncha Creek*	43 "	19	48N	7E	10500	5/1		14.4	3.7	8.7
	Park Cone	46 "	19	11S	82W	9700	4/28	38.9	7.2	4.3	4.9
	Alexander Lake	53 "	2	12S	25W	10000	5/1	74.8	34.5	22.5	23.9
	Snowshoe Mesa	55 "	14	13S	89W	7500	4/30	0.0	0.0	2.1	1.1
	Ironton Park	58 "	29	43N	7W	9800	4/30	29.0	10.8	1.2	7.9
	Trickle Divide	85 "	23	11S	94W	10000	4/29	94.1	44.2	23.5	30.9
	Park Reservoir	87 "	34	11S	94W	9500	4/29	81.7	40.1	20.9	26.3
	Porphyry Creek	89 "	19	49N	6E	10800	4/29	63.8	24.6	23.2	17.4
	Kannah Creek	101 "	5	12S	95W	10700	4/30	79.0	36.0	19.6	24.7
	Lake City	104 "	13	43N	4W	10300			0.0	0.0	2.4
	Spring Creek Pass	123 "	2	42N	3W	10900	4/29	36.5	13.9	3.9	5.2
	Cochetopa Pass*	126 "	12	45N	3E	10000	4/30	13.2	4.5	3.1	2.4
	McClure Pass	132 "	1	11S	89W	9500	5/3	26.8	10.7	11.9	11.6
	Red Mt. Pass	153 "	13	42N	8W	11000	5/1	97.0	45.8	28.8	---
	SAN JUAN RIVER					Average for drainage		54.5	25.1	13.7	15.0
	Wolf Creek Pass*	26 Colo.	4	37N	2E	10000	5/1	91.0	49.2	20.9	26.6
	Upper San Juan	29 "	10	37N	1E	10000	5/1	107.5	53.6	23.2	30.9
	Granite Peaks	93 "	21	37N	6W	7950	5/1	0.0	0.0	0.0	0.8
	La Plata	135 "	4	36N	11W	9700	5/2	44.0	22.7	4.0	2.0
	Wolf Creek Summit	155 "	6	37N	2E	11000	5/1	116.7	51.7	22.1	22.1
						Average for drainage		60.4	30.9	12.0	15.0

*On adjacent drainage



COLORADO RIVER SNOW SURVEYS
May 1, 1952

*On adjacent drainage.



Federal - State - Private

COOPERATIVE SNOW SURVEYS

Furnishes the basic data
necessary for forecasting
water supply for irrigation,
domestic and municipal water
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"WATER IS THE WEST'S GREATEST RESOURCE"